

	<h2 style="text-align: center;">Public Comment Response Document</h2>		
<b>Title: Document Review Log for Policy Statement: “Guidance for Power or Thrust Response Testing for Turbine Engines, § 33.73”</b>		<b>Date: May 20, 2013 (rev 1/21/2014)</b>	<b>ANE-111</b>


<b>Item No:</b>	<b>Page and Paragraph No:</b>	<b>Comment:</b>	<b>Reason:</b>	<b>Recommendation:</b>	<b>Disposition:</b>
1. Private Citizen	Page 1, Section 1. PURPOSE.	Suggest the final version make a statement as to what type of engines this policy applies to.	Provide clarity to reader whether all engine types, including turboshaft engines, should be considered.	Add engine type applicability to Purpose section.	Concur - Adopted.
2. EASA	n/a	EASA has reviewed the policy and has no comments.	n/a	none	Accept comment
3. Rolls-Royce	various	Rolls-Royce supports the policy letter's clarification on the extent of engine operating envelope to be considered, and the need to account for influence of various engine controls schemes, when showing compliance with this regulation.	None given	None given	Accept comment  No changes requested or made.
4. Rolls-Royce		Rolls-Royce would like to request that the policy letter also include a discussion on the selection of 15 percent of the rated takeoff power' verses the minimum idle.	Due to the possible confusion between minimum idle and the flight idle implied in the original regulation.		Non-concur (FAA note: This comment is outside the scope of this policy. The comment deals with another issue that would not add to this policies

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5. Honeywell	General comment	A re-consideration of the 14CFR33.73(b) regulation may be warranted in light of advances in engine control design and engine-aircraft integration.	Advancement of engine control systems	Commenter suggests rulemaking to update rule to recognize modern control systems. (FAA note: This comment is outside the scope of this policy)	content. The commenters proposed issue may be appropriate for a future ARAC committee discussion.) Non-concur (FAA note: This comment is outside the scope of this policy. The commenters proposed issue may be appropriate for a future ARAC committee discussion.)
6. Honeywell	Page 1, Section 1. PURPOSE.	The draft policy material states that the intention is to insure that accel performance supports aircraft compliance with 14 CFR 25.119. 14 CFR 33.73 and this draft policy are applicable to all engines, including engines intended for non 14 CFR 25 installations (as in 14 CFR 27 or 29).	This may pose an undue burden on the design of engines intended for non-14CFR25 installations.	The FAA believes the commenter desires that the policy statement include a reference to other types of aircraft installations, other than just 14 CFR part 25.	Concur- Adopted proposal of adding part 23 power response requirements in addition to the previously cited part 25 power requirements.
7. Honeywell	General	A regulation which	None given	Commenter suggests rulemaking to update	Non-concur

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	comment	<p>required demonstration of engine acceleration performance suitable for its intended application, documented in the Installation Manual, with separate AC guidance on generally accepted accel performance levels, might be more appropriate.</p>		<p>rule to recognize modern control systems. (FAA note: This comment is outside the scope of this policy)</p>	<p>(FAA note: This comment is outside the scope of this policy). Commenter suggests updating the rule for newer engine control system design features. The commenters proposed issue may be appropriate for a future ARAC committee discussion. Non-concur</p> <p>The commenter is recommending practices and procedures that are outside the scope of this policy and also outside the allowances of the current rule. The commenters proposed issue may be appropriate for a future ARAC</p>
8. Honeywell	Pg 2, Section 3. GUIDANCE	<p>This commenter proposes a demonstration which would utilize the flight idle and takeoff power set schedules of the control (when present), but would allow tailoring of the acceleration schedules (fuel, bleed valve, etc) to demonstrate accel capability at the prevailing test conditions. It is suggested that it be acceptable to document any conditions for which the acceleration capability falls</p>	<p>This policy should be clarified to allow demonstration of thermodynamic acceleration capability of an uninstalled engine in cases where control schedules limit uninstalled accel performance in order to satisfy aircraft needs and installation</p>	<p>It should be acceptable to document any conditions for which the acceleration capability falls short of the 5.0 second requirement in the installation manual.</p>	

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9. Honeywell	Pg 2, Section 3. GUIDANCE.	short of the 5.0 second requirement in the installation manual. Commenter recommends taking “of § 33.73” out of paragraph 3.a.	constraints.  None given.	a. Identify Tailored Control Schedules: The type approval holder should assess the engine control system schedules to identify if any schedules could impact the engine’s power or thrust response.  b. Identify Critical Operating Conditions: The most critical conditions for accelerations should be identified in terms of ambient temperature, altitude, or other critical factors that can affect control system schedules.	committee discussion.  Non-concur  FAA believes the reference to 33.73 is important here since that is the primary reason for the policy. Partially Adopted
10. Honeywell	Pg 2, Section 3. GUIDANCE.	Commenter recommends taking “when considering the go-around scenario that this regulation addresses ” out of paragraph 3.b.	None given		FAA used alternate wording to that proposed by the commenter to address the commenters concerns. Part 23 requirements will be added in addition to the existing part 25 requirements. FAA did not adopt the commenters exact wording since it was vaguer than the final wording within the

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11. Honeywell	Pg 2, Section 3. GUIDANCE.	Commenter recommends taking “to ensure compliance to the 5-second acceleration requirement” out of paragraph 3.c.	None given	c. Assess Control Schedule Effects: For § 33.73 compliance demonstrations, type approval holders must demonstrate acceptable acceleration characteristics. This demonstration must include an assessment of tailored control schedules and their impact on power or thrust response.	policy. Non-concur  Adopting the commenters words would remove the 5-second timed accel requirement that is currently in the rule. That is not the intent of this policy statement.
12. Honeywell	Pg 2, Section 3. GUIDANCE.	Commenter recommends rewording paragraph 3.e., to remove the words “demonstrate full compliance”. Also add significant wording on a specific detailed compliance process.	None given	e. Compliance Requirements: Type approval holders must assess the critical condition and demonstrate full compliance to the requirements of § 33.73. Less than full compliance would require that the type approval holder seek an exemption from the FAA. The type design of some modern engines possess control system schedules that ensure required aircraft power or thrust response times are satisfied under the critical operating conditions and worse case installation effects. In such cases full compliance with § 33.73 may be satisfied by a 5-second acceleration engine test using modified control system schedules under typical ambient test cell operating conditions that is supplemented by an assessment of critical operating conditions	Non-concur  Commenter’s wording suggests that applicant does not need to meet full requirements of 33.73, without an exemption. Applicant would need to request an exemption to achieve the commenter’s objectives. Each exemption is assessed on their merit.

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13. Cessna	2. a.	Reference to 14 CFR Part 23 requirement should be added	To recognize small aircraft timed accel requirements.	<p>performed on the type design control system schedules with worse case installation effects (providing engine acceleration times not necessarily within 5 seconds but compliant with aircraft requirements) as demonstrated by test and/or analysis. The engine installation manual shall define these type design acceleration times that the engine control system schedules provide.</p> <p>The FAA considers the power or thrust requirement of §33. 73 as critical to meeting the aircraft go-around installed power response requirements <b><u>of §23.77, Balked landing and</u></b> §25.119, Landing climb: All engines operating.</p>	<p>Additionally, the policy allows analysis to demonstrate compliance for tailored control schedules.</p> <p>Concur -Adopted proposal of adding part 23 power response requirements</p>
14. GE	2.a.	Revise language. This language over-states the direct linkage of these requirements.	The 14 CFR part 33 requirements ensures the design provides benchmark sea level, uninstalled capability, which has been found to be consistent with a design that can also meet the 14 CFR part 25 requirement. However, each engine/installation	<p>Recommended change -</p> <p>The FAA considers the power or thrust response requirements of § 33.73 as a key benchmark to ensure the engine demonstrates capability which is consistent with a design that can also meet the aircraft go-around installed power response requirements of § 25.119, Landing climb: All-engines-operating.</p>	<p>Concur – Adopted the proposed language exactly.</p>

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15. GE	3.b.	<p>Revise language. Including “altitude” in this paragraph could be interpreted as expanding the § 33.73 demonstration to altitudes above sea level.</p>	<p>is unique with respect to part 25 requirements which include additional factors beyond the part 33 requirement. We understand the intent was to determine the critical operating condition including consideration for the engine’s control schedules, which could be impacted by ambient temperature (for example).</p>	<p>Recommended change – The most critical conditions for sea level accelerations should be identified in terms of ambient temperature or other critical factors on control system schedules, when considering the thrust transient that this regulation addresses.</p>	<p>Partially Adopted. The proposed wording was adopted, except for the addition of the words "sea level" in paragraph 3.b. The proposed insertion of the words "sea level" in that sentence would be potentially misleading in that they could suggest that we are attempting to perform only sea level tests to cover sea level operations, which is not the case.</p>
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16. Cessna	3.c,d,e	The three paragraphs could be consolidated into one to clarify the intent.	It appears that the intent of the referenced paragraphs is to require the applicant to consider the effect of tailored control schedules and on the engine response and to determine the critical condition resulting from those effects, and then to apply that impact to actual testing (which may or may not be completed at the critical condition per 3d). The wording in 3e that type approval holders must “demonstrate full compliance” then could be confusing in that “demonstrate” paragraph says	<p>Replace the current paragraphs 3c,3d,3e with the following single paragraph:</p> <p>3c. Compliance Requirements: The power or thrust response requirements of §33.73 must be demonstrated through engine test. The effects of tailored control system schedules must be considered. The effects of tailored control system schedules may be assessed by engine test, or they may be shown by analysis (for example transient analysis) which ensures compliance to the 5-second acceleration requirement at the critical condition.</p>	<p>Non-concur</p> <p>The commenter compacts the various requirements within section 3 into one paragraph requirement, which the FAA believes is less clear in that the reader must pick-out the various requirements from the paragraph instead of having them clearly listed as in the FAA proposed policy structure.</p>
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			<p>does not have to be done for critical condition.</p>		
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